



# The Value & Cost of NSDI: Experiences and Lessons Learned

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# Agenda

- **SDI - Terminology – are we talking about the same thing?**
- **What is required to implement an SDI.**
- **Success rates to date.**
- **Experiences and lessons learned, in practice.**
- **What is your FUD factor?**
- **Some recommendations.**

# SDI Credentials - Historical

- Served on EC's Information Society support team at DG Enterprise in 1994-1995.
- Helped draft first Communication at EC DG Information Society for a pan-European SDI – GI2000 (1995 – 1999).
- Have followed INSPIRE (Infrastructure for Spatial Information in the European Community) since it started – 2000 to present.
- Member of the expert teams that helped draft the Irish NSDI Strategy, the regional SDI Strategy for Catalonia, Spain; the rural cadastre system for Egypt; GI2000 & INSPIRE frameworks; coastal and marine SDI components in the UK and pan-European (EUCC)
- Conducted research into SDI policy formulation at City University, London (2000-2007)

# SDI Credentials - Current

- **Delivering INSPIRE Master Classes to central and local government staff in Ireland and the UK since 2008.**
- **Part of the Irish NSDI/INSPIRE implementation team today.**
- **Monitoring UK Location Strategy (the NSDI) via AGI INSPIRE Working Group.**
- **Registered as an INSPIRE Spatial Data Interest Community (SDIC) and contribute to various specification drafting teams.**
- **Helped develop INSPIRE Cost-Benefit approaches for the EC.**
- **Co-author of GI Value & Pricing text book pub. Dec 2008.**
- **Advising EU coastal/marine communities on INSPIRE (EUCC).**
- **Member of PSI Platform EC service contract, monitoring implementation of the EU PSI re-use Directive – responsible for monitoring e-Gov/PSI and SDI links – or absence of these!**

# **SDI Credentials – Current Roles**

- **Chair, Global Spatial Data Infrastructure (GSDI) Association Legal & Socioeconomic Committee & editor of the policy chapters of the GSDI SDI Cookbook.**
- **Information Policy Advisor to EUCC – the Coastal and Marine Union – on ramifications of INSPIRE for 350+ coastal/marine agencies and institutes across Europe.**
- **INSPIRE Communications Expert for CORILA, group of Italian research institutions on EU-funded project GIS4EU.**
- **Strategy Group member, OneGeology-Europe project.**
- **Advisory Board member, Legal Aspects of PSI project (LAPSI).**
- **Member of three experts groups in the ESDIN (European SDI Network) project (led by EuroGeoGraphics).**
- **Project evaluator on several EU-funded GI/GIS/SDI projects in the Information Market and Research (RTD) Programmes.**

# SDI Terminology

- SDI ≠ ‘maps’
- SDI ≠ ‘GIS’ (Geographic Information Systems)
- SDI ≠ ‘portals’ or even ‘geoportals’
- SDI is an Information Infrastructure – part of a more global national Info Infrastructure that already exists in every country.
- SDI = **data policies** (publishing, access, sharing, charging, re-use, privacy, etc.), **legislation**, **monitoring** and **enforcement** provisions, **capacity building**, **technical** standards and solutions (digital GI, GIS, geoweb services, etc.)

# SDI Defined

## As per the INSPIRE Directive:

‘infrastructure for spatial information’ means **metadata, spatial data sets and spatial data services; network services and technologies; agreements on sharing, access and use; and coordination and monitoring mechanisms, processes and procedures, established, operated or made available in accordance with this Directive.**

# What is SDI?

- SDI is like real estate (buying and selling property)
- SDI is about '**Location, Location, Location**'
- What is important about spatial (geographic) information, is the '**location attribute**', i.e. that bit of data that tells you **where** something is or **where** some event happens (and in current SDI temporal extensions, **when**).
- **Location attributes** can be map coordinates, addresses, textual descriptions – anything that helps locate an object or event to a physical place on the globe (or in the ocean or in the air!).
- UK National SDI strategy is now the "**Location Strategy**"

# What is Needed for an NSDI?

- **SDI requires Cooperation!**
  - Depending upon to what level of government you extend SDI ‘membership’, literally thousands of organizational units could eventually be involved.
  - Are they ready for SDI?
  - Are they capable of participating in SDI?
  - Are they willing to participate actively in SDI?
- What **formal cooperation mechanism(s)** exist so that the views of all potential participants can be considered?
- INSPIRE has been reasonably good at this; many national SDI initiatives, not so good!

# What is Needed for an NSDI?

- SDI requires **Coordination!**
  - Information infrastructures naturally involve many organisations, many of whom have little knowledge of ‘geographic information’ or ‘geospatial infrastructure’.
  - Implementing information infrastructures involves more than just technology – policies, legislation, specific skills, awareness, best practices, etc.
  - Implementation **costs money** and takes **human resources** away from other important work.
- Most SDI initiatives to date (including INSPIRE!) have a **poor record of coordination!**
- **Why?** Because those responsible **underestimated** the degree of coordination that would be required – and the **cost** of that coordination, in both financial and human terms. (USA -, UK +, INSPIRE -, Ireland -)

# Implementing an SDI requires...

- **Costs** – financial and human (time)!
- Is the **existing information infrastructure** sufficient? (Internet connections, speeds, etc.)
- Are there a sufficient number of **trained staff** to do the implementation work needed, across the skill levels required? (data managers, IT, networking staff)
- **SDIs evolve** – requires continued support.
- “**Volunteer**” work can only go so far in supporting an SDI; without real budgets, implementation can be desperately slow to non-existent ...
- ... and yet **throwing money at an SDI does not always help** – the expenditures must be well planned, transparently distributed, monitored, etc.
- Examples: USA -, Canada +, Netherlands +, Sweden +, UK -, Spain (Catalonia) +

# A 'good' SDI can deliver...

- **Efficiencies** - in different ways:
- **Cost savings** – money and time - e.g. less duplication of data, reduced cost of updating basic data, time savings using common geoweb services or tools to share data in an interoperable way, etc.
- **Other 'values'** are much less easy to assign monetary sums – e.g. 'ability to make better decisions', 'improving the quality of lives of citizens', etc.
- Explored in our book – **Geographic Information: Value, Pricing, Production and Consumption** (December 2008), CRC Press
- **Measuring cost-benefit is a very difficult task** – new ways of 'valuing' an SDI are now the focus of new research.

# SDI Challenges Ahead

- **Cooperation and Coordination.**
- **Raising awareness** at all levels.
- **Skills shortages** across all those who participate in an SDI – data owners, creators, users, at all levels of government, business and even citizens.
- **Difficult to ‘sell’ the concept** – and especially the cost – of ‘SDI’ to all stakeholders, as it is difficult to compute firm costs and benefits.
- **Managing expectations** – of data owners, ‘early adopters’, ‘unbelievers’, businesses and citizens – a communication task **not** to be ignored from the start!
- The **‘SDI Readiness Index Calculator’** – UNSDI

# SDI Challenges Ahead

## The **FUD** Test!

- **FUD** = **F**ear, **U**ncertainty and **D**oubt
- Derives from an old IBM sales technique – ‘scare the potential client into buying an IBM mainframe – or else he will suffer!’
- We use an SDI-oriented set of questions in our INSPIRE Master Classes to assess the ‘**FUD Factor**’ in our attendees (from local and central government).
- Then ask that they complete the form again some weeks later, to see if our efforts – and those of their government! – have helped reduce their FUD Factor.

# Some Recommendations

1. Create a **Coordinating Council** or equivalent, that represents the main stakeholders.
2. Agree and publish (widely!) a **formal SDI Strategy**, preferably with high-level government endorsement – and a Champion!
3. **Enact legislation** regarding stakeholders responsibilities – and rights – in regard to the goals of the SDI, *if you think this will help*.
4. Do not forget the **private sector** – who have become key players in the geospatial industry and in several NSDI initiatives and programmes.



# Thank you for your patience and attention!

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